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What is claimed is:

1. A power control circuit for a laser diode, comprising:

an amplifier circuit producing at an output terminal thereof an output voltage responsive to a voltage difference between a reference voltage and a feedback voltage that is indicative of an optical power generated by said laser diode in response to a driving current flowing therethrough; and

a driving circuit responding to said output voltage to control said driving current so as to make said voltage difference small;

said amplifier circuit driving said output terminal with a first time constant during a steady operation and with a second time constant that is smaller than said first time constant upon initiation before said steady operation.

2. The circuit according to claim 1, wherein said second time constant is derived by increasing a driving ability of said amplifier circuit upon said initiation larger than that during said steady operation.

3. The circuit according to claim 1, wherein said amplifier circuit includes an operational amplifier, a capacitor coupled between output and input ends of said operational amplifier, and a first switch coupled in parallel to said capacitor, said first switch being turned OFF during said steady operation and

ON upon said initiation.

4. The circuit according to claim 3, wherein said amplifier circuit further includes a first resistor, a second resistor coupled in parallel to said capacitor, and a second switch coupled to said input end of said operational amplifier through said first resistor, said second switch being turned ON during said steady operation and OFF upon said initiation.

5. The circuit according to claim 3, wherein said amplifier circuit further includes a reference voltage generation circuit coupled to said amplifier circuit, generating first and second reference voltages and providing said amplifier circuit with said first reference voltage as said reference voltage during said steady operation and with said second reference voltage that is higher than said first reference voltage as said reference voltage upon said initiation.

6. The circuit according to claim 5, wherein said amplifier circuit further includes a third switch coupled to said capacitor, forming an electrical path between said input end of said operational amplifier and said capacitor during said steady operation and providing said input end of said operational amplifier with said first reference voltage upon said initiation.

7. The circuit according to claim 4, wherein said amplifier circuit further includes a fourth switch coupled between said

input end of said operational amplifier and said capacitor, forming an electrical path between said input end of said operational amplifier and said capacitor during said steady operation and providing said capacitor with said feedback voltage without said electrical path upon said initiation.

8. A power control circuit for a laser diode, comprising:

a first amplifier circuit producing at a first output terminal thereof a first output voltage responsive to a first voltage difference between a first reference voltage and a feedback voltage that is indicative of an optical power generated by said laser diode in response to a driving current flowing therethrough;

a second amplifier circuit producing at a second output terminal thereof a second output voltage responsive to a second voltage difference between a second reference voltage and said feedback voltage;

a driving circuit responding to one of said first and second output voltage to control said driving current so as to make one of said first and second voltage difference small, respectively;

at least one of said first and second amplifier circuits driving one of said first and second output terminals with a first time constant during a steady operation and with a second time constant that is smaller than said first time constant upon initiation before said steady operation.

9. The circuit according claim 8, wherein said second time constant is derived by increasing a driving ability of said amplifier upon said initiation larger than that during said steady operation.

10. The circuit according claim 8, wherein at least one of said first and second amplifier circuits includes an operational amplifier, a capacitor coupled between output and input ends of said operational amplifier, and a first switch coupled in parallel to said capacitor, said first switch being turned OFF during said steady operation and ON upon said initiation.

11. The circuit according claim 11, wherein at least one of said first and second amplifier circuits further includes a first resistor, a second resistor coupled in parallel to said capacitor, and a second switch coupled to said input end of said operational amplifier through said first resistor, said second switch being turned ON during said steady operation and OFF upon said initiation.

12. The circuit according claim 11, wherein at least one of said first and second amplifier circuits further includes a reference voltage generation circuit generating first and second reference voltages and providing said operational amplifier with said first reference voltage during said steady operation and with said second reference voltage that is higher than said first reference voltage as said reference voltage upon initiation.

13. The circuit according claim 13, wherein at least one of said first and second amplifier circuits further includes a third switch coupled to said capacitor, forming an electrical path between said input end of said operational amplifier and said capacitor during said steady operation and providing said input end of said operational amplifier with said first reference voltage upon said initiation.

14. The circuit according claim 12, wherein at least one of said first and second amplifier circuits further includes a fourth switch coupled between said input end of said operational amplifier and said capacitor, forming an electrical path between said input end of said operational amplifier and said capacitor during said steady operation and providing said capacitor with said feedback voltage without said electrical path upon said initiation.